## REMARKS

The Examiner rejected claims 1-9, 11, 14-17, and 19-21 under 35 U.S.C. 103(a) as being unpatentable over Kostylev in view of Chen, with support by Hirota and Miyamoto. The Examiner rejected claim 10 under 35 U.S.C. 103(a) as being unpatentable over Kostylev in view of Chen, and further in view of Sandhu.

Claim 1

Kostylev and Chen do not disclose and would not have made obvious "the multiple-layer structure being made of a material capable of changing phase between a crystalline state and an amorphous state in response to an electrical pulse of less than about 10 ns," as recited in amended claim 1.

Kostylev and Chen also do not disclose and would not have made obvious "the plurality of individual layers of said at least two multiple-layer structures of said laminated structure generates a barrier effect that suppresses an atomic diffusion and reduces a mutual diffusion between said data recording element and other portions of said medium," as recited in amended claim 1.

Support of the amendments can be found in, e.g., paragraphs [0057] and [0062]. Applicants have also corrected typographical errors in dependent claims. No new matter is introduced by the amendments.

Further, there is no reason to combine Kostylev and Chen. Kostylev discloses various arrangements of programmable resistance material layers and stabilizing layers in a memory material stack (see paragraph [0034]). One objective of Kostylev is to produce a memory cell that can better withstand applied stresses and strains (see paragraph [0055]). In addition, the memory material stack structures disclosed by Kostylev promote adhesion between layers of material (see paragraph [0056]).

Chen discloses a phase change memory device and a method of making the device. One objective of Chen is to produce a memory device with a reduced drift of memory resistance

using discrete layers of phase change material that are separated by lattice mismatch interface materials (see paragraph [0011]). Further, the method of operating the phase change memory device includes applying heat to the memory material volume to form a temperature gradient in the memory material volume for a predetermined amount of time in order to produce desired resistance value (see paragraph [0014]).

A person skilled in the art, upon reviewing Kostylev and Chen, would not apply Chen's technique to Kostylev's memory cell. Kostylev provides a memory cell that can better withstand applied stresses and strains, as well as to promote adhesion between layers of material. Chen provides a memory device with a reduced drift of memory resistance. Each of Kostylev and Chen discloses a particular configuration using particular material layers that provide the properties needed to address a particular problem. The Examiner contends that it would have been obvious to a person skilled in the art to modify the device of Kostylev using the techniques taught by Chen. However, that would require replacing at least some of the material layers used in Kostylev with the material layers used in Chen. Using Chen's material layers in Kostylev's device, while possibly promoting certain features taught by Chen, may adversely affect the features taught by Kostylev, rendering the modified Kostylev device unsatisfactory for its intended purpose. The properties of a multi-layer memory device may change significantly when the material layers are changed. Much experimentation may be required to tweak the combination of material layers from Kostylev and Chen to achieve the desired results. There is no reasonable expectation that using Chen's material layers in Kostylev would result in a memory device that has the features taught by Chen, while still being suitable for Kostylev's intended purpose. Therefore, claim 1 would not have been obvious in view of Kostylev and Chen.

Claims 17, 20, and 21 are patentable for at least similar reasons as those applied to claim 1.

All of the dependent claims are patentable for at least the reasons for which the claims on which they depend are patentable.

Canceled claims have been canceled without prejudice.

Any circumstance in which the applicant has addressed certain comments of the examiner does not mean that the applicant concedes other comments of the examiner. Any circumstance in which the applicant has made arguments for the patentability of some claims does not mean that there are not other good reasons for patentability of those claims and other claims. Any circumstance in which the applicant has amended or canceled a claim does not mean that the applicant concedes any of the examiner's positions with respect to that claim or other claims.

Please apply the $130 for the extension of time and any charges or credits to deposit account 06-1050.

Respectfully submitted,

Date: April 17, 2009

/Rex I. Huang/
Rex I. Huang
Reg. No. 57,661

Fish & Richardson P.C.
225 Franklin Street
Boston, MA 02110
Telephone: (617) 542-5070
Facsimile: (877) 769-7945

22152978.doc